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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/071,566	02/08/2002	Arjun P. Chandran	P-7061	9858

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EXAMINER	
MEONSKE, TONIA L	
ART UNIT	**PAPER NUMBER**
2183	

DATE MAILED: 08/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/071,566	CHANDRAN ET AL.	
	Examiner	Art Unit	
	Tonia L Meonske	2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 April 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15 and 17-20* is/are rejected.

7)☒ Claim(s) *16 and 21-24* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 February 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. New corrected drawings are required in this application because Figure 8 is missing. Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

2. The drawings filed on February 8, 2002 are acceptable subject to correction of the informalities indicated on the attached "Notice of Draftperson's Patent Drawing Review," PTO-948. In order to avoid abandonment of this application, correction is required in reply to the Office action. The correction will not be held in abeyance.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

4. Claims 2, 3, 5, 6, 7, 9, 10, 12, 13, 15, 16, 17, 18, 19, 20, 22, 23, and 24 are objected to because of the following informalities:

a. claim 2, line 1, please change the limitation ";" to ":",

b. claim 3, line 1, please change the limitation ";" to ":",

c. claim 5, line 1, please change the limitation ";" to ":",

d. claim 6, line 1, please change the limitation ";" to ":",

e. claim 7, line 1, please change the limitation ";" to ":",

f. claim 9, line 1, please change the limitation ";" to ":",

g. claim 10, line 1, please change the limitation ";" to ":",

h. claim 12, line 2, please change the limitation ";" to ":",

i. claim 13, line 2, please change the limitation ";" to ":",

j. claim 15, line 2, please change the limitation ";" to ":",

k. claim 16, line 2, please change the limitation ";" to ":",

l. claim 17, line 2, please change the limitation ";" to ":",

m. claim 18, line 2, please change the limitation ";" to ":",

n. claim 19, line 2, please change the limitation ";" to ":",

o. claim 20, line 1, please change the limitation ";" to ":",

p. claim 22, line 2, please change the limitation ";" to ":",

q. claim 23, line 2, please change the limitation ";" to ":", and

r. claim 24, line 1, please change the limitation ";" to ":".

5. Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-5, 8, 11-15, and 17-19 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Wallace, Steven, et al., Design and Implementation of a 100 MHz Reorder Buffer, IEEE, 1995 (hereinafter Wallace et al.).

8. Referring to claim 1, Wallace et al. have taught a method for performing conditional reads of a retirement payload array in a microprocessor, said method comprising:

a. receiving a clock signal, said clock signal having a first or "A" phase and a second or "B" phase (page 45, Phase 1, 2, or 3, is the "A" phase. Phase 4 is the "B" phase.);

b. receiving an advance pointer signal, said advance pointer signal having a first or inactive phase and a second or active phase, said second or active phase of said advance pointer signal corresponding to a shift in position of a read pointer of said retirement payload array (Page 45, Figure 7, MATCH_LOCAL, pages 42-44);

c. initiating a read of said retirement payload array only when, both:

i. said clock signal is in said "B" phase (page 45, Figure 7); and

ii. said advance pointer signal is in said active phase (page 45, Figure 7,

9. When the Match_Local signal is in the active phase, along with the clock signal being in the active phase, then data is read from the DATA_BIT line.).

10. Referring to claim 2, Wallace et al. have taught the method of claim 1, as described above, and wherein; said retirement payload array comprises M rows of memory cells and N columns of memory cells (Page 43, Figures 1 and 3).

11. Referring to claim 3, Wallace et al. have taught the method of claim 2, as described above, and wherein;

a. said retirement payload array comprises M read word lines and N read bit lines, further wherein (page 44);

b. each of said N read bit lines is coupled to a corresponding pre-charge device (Page 45, Data cells are pre-charged.) and a corresponding sensing device (Page 43, Figure 3, Shift Cell).

12. Referring to claim 4, Wallace et al. have taught the method of claim 3, as described above, and wherein said pre-charge devices are pre-charged when said clock signal is in said first or "A" phase (Page 45, Phases 1 and 3.).

13. Referring to claim 5, Wallace et al. have taught the method of claim 4, as described above, and wherein; each of said pre-charge devices is a transistor (Page 44, precharge control transistor) and each of said sensing devices is a latch (Page 43, Figure 3, Shift cell is a flip-flop.).

14. Referring to claim 8, Wallace et al. have taught a method for performing conditional reads of a retirement payload array in a microprocessor, said method comprising:

a. providing a retirement payload array, said retirement payload array comprising M rows of memory cells and N columns of memory cells (Page 43, Figures 1 and 3); said retirement payload array further comprising M read word lines and N read bit lines (page 44), wherein, each of said N read bit lines is coupled to a corresponding pre-charge device (Page 45, Data cells are pre-charged.) and a corresponding sensing device (Page 43, Figure 3, Shift Cell);

b. coupling a clock signal to said retirement payload array, said clock signal having a first or "A" phase (page 45, Phase 1, 2, or 3, is the “A” phase.) and a second or "B" phase (Page 45, Phase 4 is the “B” phase.); wherein said pre-charge devices are pre-charged when said clock signal is in said first or "A" phase (Page 45, Phases 1 and 3.);

c. coupling an advance pointer signal to said retirement payload array, said advance pointer signal having a first or inactive phase and a second or active phase, said second or active phase of said advance pointer signal corresponding to a shift in position of a read pointer of said retirement payload array (Page 45, Figure 7, MATCH_LOCAL, pages 42-44);

d. initiating a read of said retirement payload array only when, both:

i. said clock signal is in said "B" phase (page 45, Figure 7); and

ii. said advance pointer signal is in said active phase (page 45, Figure 7, When the Match_Local signal is in the active phase, along with the clock signal being in the active phase, then data is read from the DATA_BIT line.).

15. Referring to claim 11, Wallace et al. have taught a retirement payload array comprised of modified column structures, each of said modified column structures comprising:

a. a read bit line (Page 45, Figure Page 44, Figure 4);

b. a pre-charge device coupled to said read bit line (Page 45, Data cells are pre-charged.);

c. a sensing device coupled to said read bit line (Pages 43-44, Figures 3 and 4, Shift cell is a flip-flop.);

d. at least one memory cell, said memory cell comprising an output coupled to said read bit line and an input (Page 44, Figure 4);

e. a gate, said gate comprising an output coupled to said input of said at least one memory cell and an input (Page 44, Figure 6);

f. a conditional read circuit, said conditional read circuit comprising a first input, a second input and an output, said conditional read circuit output being coupled to said input of said gate (Page 45, Figure 7),

g. a clock signal, said clock signal having a first or "A" phase and a second or "B" phase, said clock signal being coupled to said second input of said conditional read circuit (page 45, Phase 1, 2, or 3, is the "A" phase. Phase 4 is the "B" phase.);

h. an advance pointer signal, said advance pointer signal having a first or inactive phase and a second or active phase, said second or active phase of said advance pointer signal corresponding to a shift in position of a read pointer, said advance pointer signal being coupled to said first input of said conditional read circuit (Page 45, Figure 7, MATCH_LOCAL, pages 42-44), wherein;

i. said conditional read circuit initiates a read of said retirement payload array only when, both:

i. said clock signal is in said "B" phase (page 45, Figure 7); and

ii. said advance pointer signal is in said active phase (page 45, Figure 7, When the Match_Local signal is in the active phase, along with the clock signal being in the active phase, then data is read from the DATA_BIT line.).

16. Claim 12 does not recite limitations above the claimed invention set forth in claim 2 and is therefore rejected for the same reasons set forth in the rejection of claim 2 above.

17. Claim 13 does not recite limitations above the claimed invention set forth in claim 3 and is therefore rejected for the same reasons set forth in the rejection of claim 3 above.

18. Claim 14 does not recite limitations above the claimed invention set forth in claim 4 and is therefore rejected for the same reasons set forth in the rejection of claim 4 above.

19. Claim 15 does not recite limitations above the claimed invention set forth in claim 5 and is therefore rejected for the same reasons set forth in the rejection of claim 5 above.

20. Claim 17 does not recite limitations above the claimed invention set forth in claim 2 and is therefore rejected for the same reasons set forth in the rejection of claim 2 above.

21. Claim 18 does not recite limitations above the claimed invention set forth in claim 3 and is therefore rejected for the same reasons set forth in the rejection of claim 3 above.

22. Claim 19 does not recite limitations above the claimed invention set forth in claim 5 and is therefore rejected for the same reasons set forth in the rejection of claim 5 above.

Claim Rejections - 35 USC § 103

23. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

24. Claims 6, 7, 9, 10, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallace, Steven, et al., Design and Implementation of a 100 MHz Reorder Buffer, IEEE, 1995 (hereinafter Wallace et al.).

25. Referring to claim 6, Wallace et al. have taught the method of claim 5, as described above. Wallace et al. have not specifically taught wherein; said number of rows M is equal to 16 and said number of columns N is equal to 192 such that said retirement payload array is a 192 column and 16 row retirement payload array. However, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to have the retirement array be any size, including where said number of rows M is equal to 16 and said number of columns N is equal to 192 such that said retirement payload array is a 192 column and 16 row retirement payload array, as it has been held that changes in size are not accorded patentable weight, see *In re Rose*, 220 F.2d 459, 463, 105 USPQ 237, 240 (CCPA 1955).

26. Claim 9 does not recite limitations above the claimed invention set forth in claim 6 and is therefore rejected for the same reasons set forth in the rejection of claim 6 above.

27. Referring to claim 7, Wallace et al. have taught the method of claim 5, as described above. Wallace et al. have not specifically taught wherein; said retirement payload array is a 192 column, 16-read word line register file structure. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the retirement array be any size, including wherein; said retirement payload array is a 192 column, 16-read word line register file structure, as it has been held that changes in size are not accorded patentable weight, see *In re Rose*, 220 F.2d 459, 463, 105 USPQ 237, 240 (CCPA 1955).

28. Furthermore, Wallace et al. have not taught wherein said structure employs a dynamic, full swing pull down read mechanism. However, Wallace have taught a dynamic full swing pull up read mechanism (Page 44, Figure 6), which is functionally equivalent to the claimed dynamic full swing pull down read mechanism, for the desirable purpose of preventing corrupt data values on the wires. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the mechanism of Wallace et al. be a dynamic full swing pull down read mechanism, for the desirable purpose of preventing corrupt data.

29. Claim 10 does not recite limitations above the claimed invention set forth in claim 7 and is therefore rejected for the same reasons set forth in the rejection of claim 7 above.

30. Claim 20 does not recite limitations above the claimed invention set forth in claim 7 and is therefore rejected for the same reasons set forth in the rejection of claim 7 above.

Allowable Subject Matter

31. Claim 16 is objected to as being dependent upon a rejected base claim, but would be allowable if the above noted objection is corrected and the claim is rewritten in independent form including all of the limitations of the base claim and any intervening claims.

32. Claims 21-24 is objected to, but would be allowable if the above noted objections to the claims are corrected.

Conclusion

33. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tonia L Meonske whose telephone number is (703) 305-3993. The examiner can normally be reached on Monday-Friday, 8-4:30.

34. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie P Chan can be reached on (703) 305-9712. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

35. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tlm

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